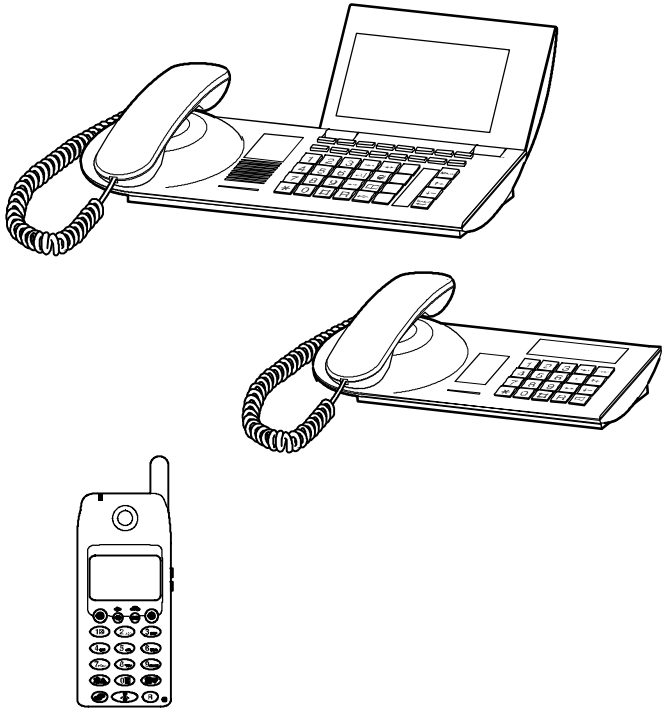
System telephones Integral 3



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All technical data, information and properties of the product described in this document have been compiled to the best of our knowledge at the time of going to print.

Subject to modification and improvements to the product in the course of technical developments.

BOSCH
Medium communication systems
Documentation UC-PN/MID3

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1 System telephone TE13

1.1 General comments

The system telephone TE13 is a digital desk telephone in T1-design and comfort class E (Economic); It is operated in TN-Stimulus Mode on a bus-capable S_0-Interface of the telecommunications system (PCB) Integral 3.

The handset of the TE13 can be rotated on its seat and, on the telephones's bottom, a gripface has been prepared, to enable the user to pick up the unit with one hand.

It is furnished with 8 permanently labelled function keys.

Power supply is provided from the I3 via the S_0-interface.

It is possible to connect two system telephones per bus.

The internal telephone data is stored in an EEPROM.

The telephone is not equppied with any interface for extras.

In case of misfunction, the complete TE13 telephone must be exchanged.

The TE13 is not suitable to be connected to the public telephone network.

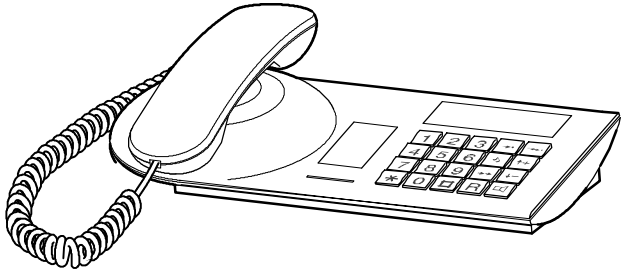


Fig. 1 System telephone TE13

1.2 Connections

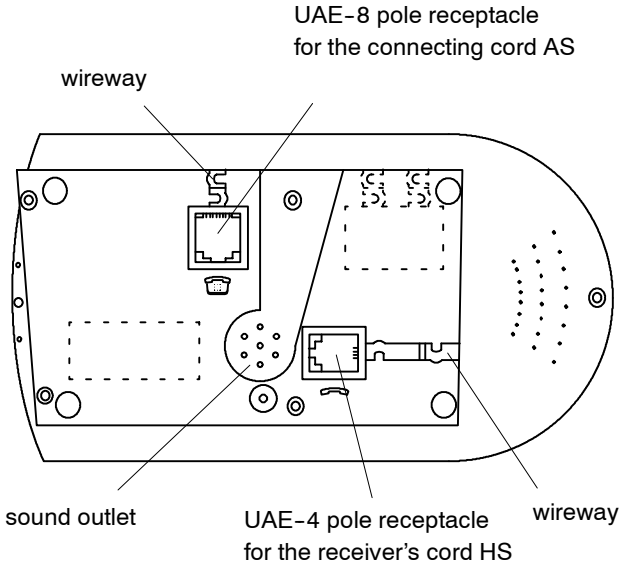


Fig. 2 Bottom view TE13

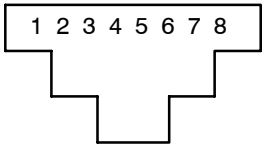
The telephone's connecting cord AS is furnished, in both ends, with UAE-8 pole plugs. One end is plugged on the bottom of the telephone (see Fig. 2), the other end to a UAE receptacle.

The handset's cord HS is furnished, in both ends, with UAE-4 pole plugs. One end is plugged on the bottom of the telephone (see Fig. 2), and the other end to the handset.

The connections are led to the bottom of the telephone by means of wireways, and they can be disconnected and exchanged any time.

A polarity safe-guarded plug is provided for telephone extras, which have their own power supply and pluggable connectors.

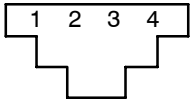
UAE-Receptacle allocation for AS



Frontal receptacle representation looking into the contacts

1 free
2 free
3 transmitting +
4 receiving +
5 receiving -
6 transmitting -
7 free
8 free

UAE-Receptacle allocation for HS



Frontal receptacle representation looking into the contacts

1 Microphone -
2 Handset
3 Handset
4 Microphone +

Fig. 3 Sleeve allocation TE13

1.3 Bus operation for two telephones

If two system-telephone's (bus operation) are connected to a S_0-Interface, the assignation between the telephone and the telephone call-number must be done manually (TEI-Telephone Endpoint Identifier-Adjustment). To do the above, proceed as follows:

- ❑ Keep pressed key 1 or 2 -as the case might be- on the respective telephone
- ❑ Unplug, momentarily, connecting cord AS and plug it in again
- ❑ Release key 1 or 2

1.4 Optical indications

LED

As optical calling indicators (message waiting, call forwarding) 2 LED's display windows are located next to the keyboard, left, below.

1.5 Acoustical indications

The ringing tone has the following functions:

- ❑ Indicating ringing tone
- ❑ Indicating acknowledgement tones

Adjustments with keys

- ❑ Volume of ringing tone
- ❑ Frequency of ringing tone with code digit 66

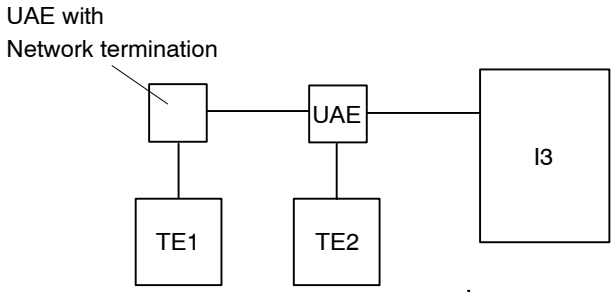


Fig. 4 Bus operation

1.6 Labels/Masks

Labels

Enclosed with respective instruction manuals are the pertinent labels, which can be labelled to meet specific customer requirements. They are then to be inserted at their individual recesses.

With aid of a PC-program, the telephone's labels can also be prepared, on-site, by service personnel.

Mounting and dismounting Mask 1 and Mask 2

Mounting:

❑ Insert the flap, on the side of the mask, in the corresponding slot, bend the mask slightly upwards and with the flap at the other end, lock the mask into the slot.

Dismounting:

❑ Pull out, with the fingernail in the notch of mask 1, or in one side of mask 2, till the flap unlocks. Take the mask off.

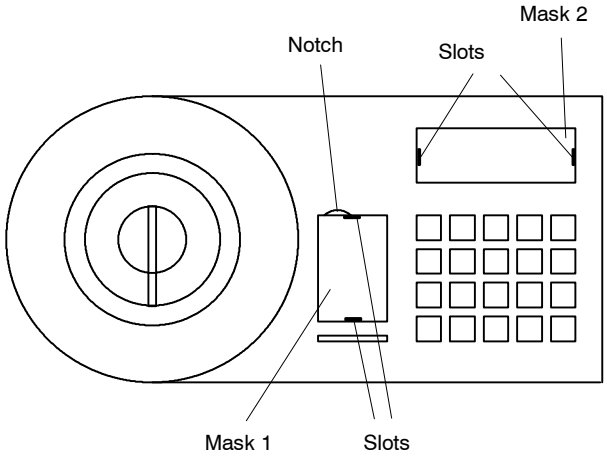


Fig. 5 Mounting and dismounting mask 1 and mask 2

2 System telephone TB13

2.1 General comments

The system telephone TB13 is a digital desk telephone in T1 design and comfort class B (Basic); It is operated in TN-Stimulus Mode on a bus-capable S_0-Interface of the telecommunication system (PCB) Integral 3.

The handset of the TB13 can be rotated on its seat and, on the telephone's bottom, a grip-face has been prepared, to enable the user to pick up the unit with one hand.

It is furnished with monitoring/WAH, 8 permanently labelled function keys and 10 free programmable function keys for lIt is furnished with monitoring/WAH, 8 permanently labelled function keys, 10 free programmable function keys for lines and it is delivered in three country-group variants.ines.

Power supply is provided from the I3 via the S_0-Interface.

It is possible to connect two system telephones per bus.

The internal telephone data is stored in an EEPROM.

In case of misfunction, the complete TB13 telephone must be exchanged.

The TB13 is not suitable to be connected to the public telephone network.

Fig. 6 System telephone TB13

2.2 Connections

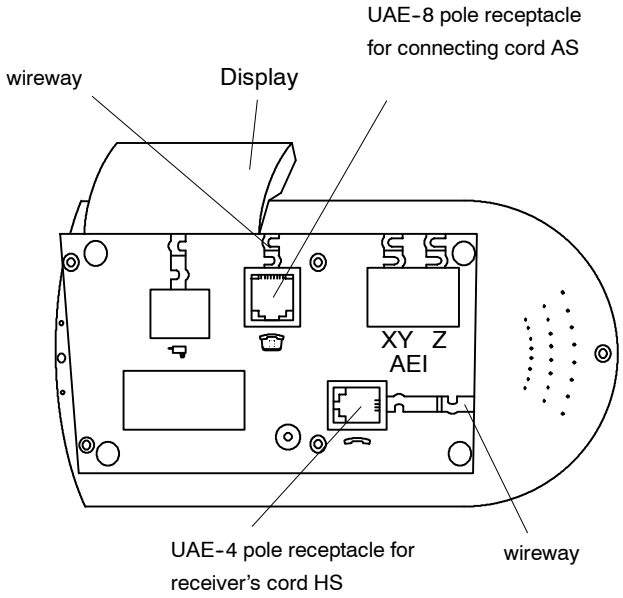


Fig. 7 Bottom view TB13

The telephone's connecting cord AS is furnished, in both ends, with UAE-8 pole plugs. One end is plugged on the bottom of the telephone (see Fig. 7), the other end to a UAE receptacle.

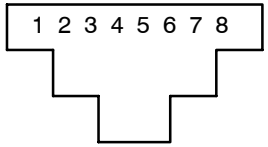
The handset's cord HS is furnished, in both ends, with UAE-4 pole plugs. One end is plugged on the bottom of the telephone (see Fig. 7), and the other end to the handset.

The connections are led to the bottom of the telephone by means of wireways, and they can be disconnected and exchanged any time.

A polarity safe-guarded plug is provided for telephone extras, which have their own power supply and pluggable connectors.

An optional UAE-4 pole receptacle for a plug-in mains unit, can be mounted on the bottom of the telephone.

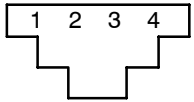
UAE-Receptacle allocation for AS



Frontal receptacle representation looking into the contacts

1 free
2 free
3 transmitting +
4 receiving +
5 receiving -
6 transmitting -
7 free
8 free

UAE-Receptacle allocation for HS



Frontal receptacle representation looking into the contacts

1 Microphone -
2 Handset
3 Handset
4 Microphone +

Fig. 8 Sleeve allocation TB13

2.3 Bus operation for two telephones

If two system-telephones (bus operation) are connected to a S_0-Interface, the assignation between the telephone and the telephone call-number must be done manually (TEI-Telephone Endpoint Identifier-Adjustment). To do the above, proceed as follows:

- ❑ Keep pressed key 1 or 2 -as the case might be- on the respective telephone
- ❑ Unplug, momentarily, connecting cord AS and plug it in again
- ❑ Release key 1 or 2

2.4 Optical indications

Display

User's menu is spread over an alpha-numeric LCD-display with one 24 characters' line and one symbols' line.

LED

As optical calling indicators 2 LED's are located in the small display window next to the keyboard, on the left side, below.

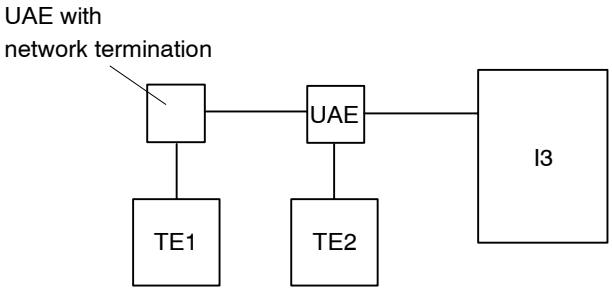


Fig. 9 Bus operation

2.5 Acoustical indications

Loudspeaker

The loudspeaker has following functions:

- ❑ Indicating the ringing tone frequency
- ❑ Monitoring a conversation
- ❑ Acknowledgement signals

Adjustments on the keyboard

- ❑ Volume of ringing tone
- ❑ Volume of monitoring
- ❑ Volume of the handset
- ❑ Frequency of ringing tone with code digit 66

2.6 Labels/Masks

Labels

Enclosed with respective instruction manuals are the pertinent labels, which can be labelled to meet specific customer requirements. They are then to be inserted at their individual recesses.

With aid of a PC-program, the telephone's labels can also be prepared, on-site, by service personnel.

Mounting and dismounting mask 1 and masks 2, 3

Mounting:

❑ Insert one side of the mask (with the flap of mask 1) in the corresponding slot, bend the mask lightly upwards and (with the other flap) lock the mask into the slot.

Dismounting:

❑ With the fingernail in notch of mask 1, pull out until it unlocks, or in one side of mask 2 or 3, pull out until it unlocks. Take the mask off.

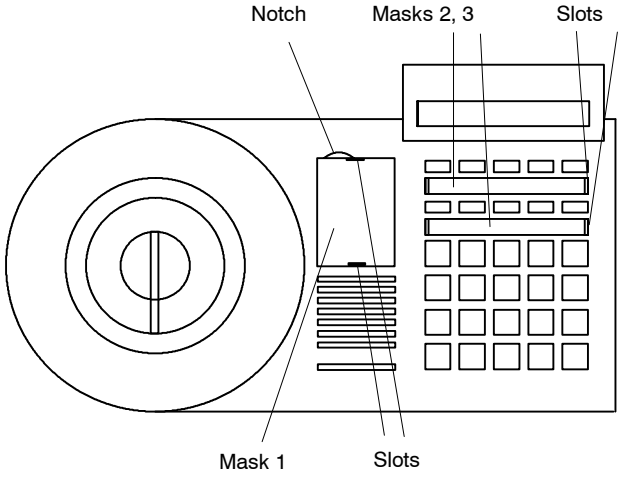


Fig. 10 Mounting and dismounting mask 1 and masks 2, 3

3 System telephone TS13

3.1 General comments

The system telephone TS13 is a digital desk telephone with display in T1 design and comfort class S (Standard); It is operated in TN-Stimulus Mode on a bus-capable S_0-Interface of the telecommunication system (PCB) Integral 3.

The handset of the TS13 can be rotated on its seat and, on the telephone's bottom, a grip-face has been prepared, to enable the user to pick up the unit with one hand.

It is furnished with monitoring/WAH, 8 permanently labelled function keys and 10 free programmable function keys for functions and destinations.

Power supply is provided from the I3 via the S_0-Interface.

It is possible to connect two system-telephones per bus.

The internal telephone data is stored in an EEPROM.

In case of misfunction, the complete TS13 telephone must be exchanged.

The TS13 is not suitable to be connected to the public telephone network.

Fig. 11 System telephone TS13

3.2 Connections

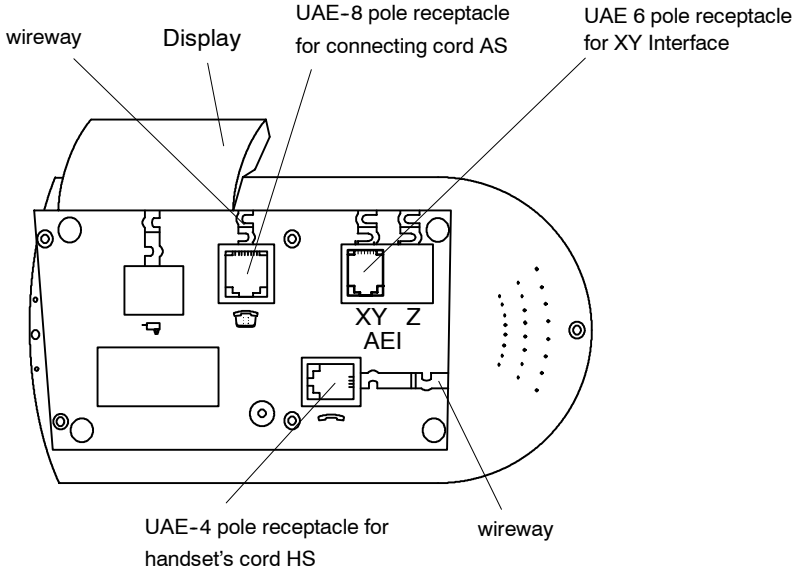


Fig. 12 Bottom view TS13

The telephone's connecting cord AS is furnished, in both ends, with UAE-8 pole plugs. One end is plugged on the bottom of the telephone (see Fig. 12), the other end to a UAE receptacle.

The handset's cord HS is is furnished, in both ends, with UAE-4 pole plugs. One end is plugged on the bottom of the telephone (see Fig. 12), and the other end to the handset.

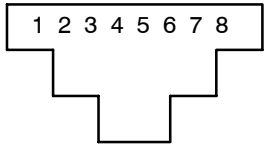
The connections are led to the bottom of the telephone by means of wireways, and they can be disconnected and exchanged any time.

A polarity safe-guarded plug is provided for telephone extras, which have their own power supply and pluggable connectors.

Following extra modules can be connected:

- ❑ DSS-module (max. 3 modules with 36 keys per module)
- ❑ Headset
- ❑ External loudspeaker

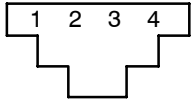
UAE-Receptacle allocation for AS



Frontal receptacle representation looking into the contacts

1 free
2 free
3 transmitting +
4 receiving +
5 receiving -
6 transmitting -
7 free
8 free

UAE-Receptacle allocation for HS



Frontal receptacle representation looking into the contacts

1 Microphone -
2 Handset
3 Handset
4 Microphone +

Fig. 13 Sleeve allocation TS13

Connections for extra facilities

The connection of X/Y-extra facilities is done by means of a UAE-6 pole receptacle with following contact allocation (see Fig. 14).

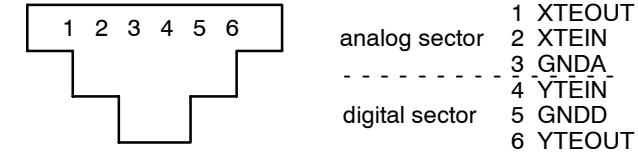


Fig. 14 Sleeve allocation for extra facilities

3.3 Bus operation for two telephones

If two system-telephones (bus operation) are connected to a S_0-Interface, the assignation between the telephone and the telephone call-number must be done manually (TEI-Telefon Endpoint Identifier-Adjustment). To do the above, proceed as follows:

- ❑ Keep pressed key 1 or 2 -as the case might be- on the respective telephone
- ❑ Unplug, momentarily, connecting cord AS and plug it in again
- ❑ Release key 1 or 2

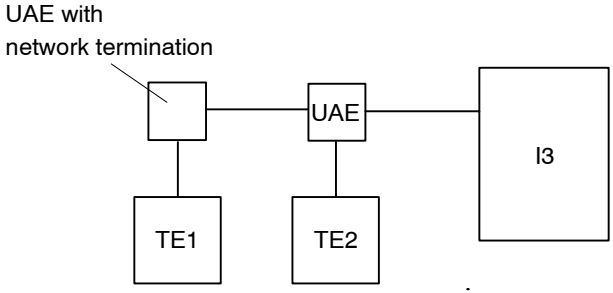


Fig. 15 Bus operation

3.4 Optical indications

Display

User's menu is spread over an alpha-numeric LCD-display with one 24 characters' line and one symbols' line. The display contrast can be adjusted with the keyboard.

LED

As optical calling indicators 2 LED's are located in the small display window next to the keyboard, on the left side, below.

3.5 Acoustical indications

Loudspeaker

The loudspeaker has following functions:

- ❑ Indicating the ringing tone frequency
- ❑ Indicating the alarm tone by reaching set-up time
- ❑ Monitoring a conversation
- ❑ Indicating a spoken message
- ❑ Volume of the signal tones
- ❑ Acknowledgement signals

Adjustments on the keyboard

- ❑ Volume of ringing tone
- ❑ Volume of monitoring
- ❑ Volume of the handset
- ❑ Frequency of ringing tone with code digit 66

3.6 Labels/Masks

Labels

Enclosed with respective instruction manuals are the pertinent labels, which can be labelled to meet specific customer requirements. They are then to be inserted at their individual recesses.

With aid of a PC-program, the telephone's labels can also be prepared, on-site, by service personnel.

Mounting and dismounting mask 1 and masks 2, 3

Mounting:

❑ Insert one side of the mask (with the flap of mask 1) in the corresponding slot, bend the mask lightly upwards and (with the other flap) lock the mask into the slot.

Dismounting:

❑ With the fingernail in notch of mask 1, pull out until it unlocks, or in one side of mask 2 or 3, pull out until it unlocks. Take the mask off.

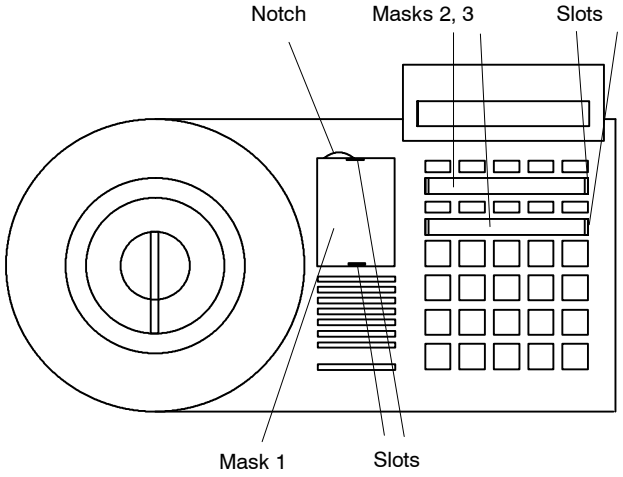


Fig. 16 Mounting and dismounting mask 1 and masks 2, 3

4 System telephone TM13

4.1 General comments

The system telephone TM13 is a digital desk telephone with display in T1 design and comfort class M (Medium); It is operated in TN-Stimulus Mode on a bus-capable S_0-Interface of the telecommunication system (PCB) Integral 3.

The handset of the TS13 can be rotated on its seat and, on the telephone's bottom, a grip-face has been prepared, to enable the user to pick up the unit with one hand.

It is furnished with monitoring/WAH, 12 permanently labelled function keys and 12 free programmable function keys for functions and destinations.

Power supply is provided from the I3 via the S_0-Interface.

It is possible to connect two system-telephones per bus.

The internal telephone data is stored in an EEPROM.

In case of misfunction, the complete TM13 telephone must be exchanged.

The TM13 is not suitable to be connected to the public telephone network.

Fig. 17 System telephone TM13

4.2 Connections

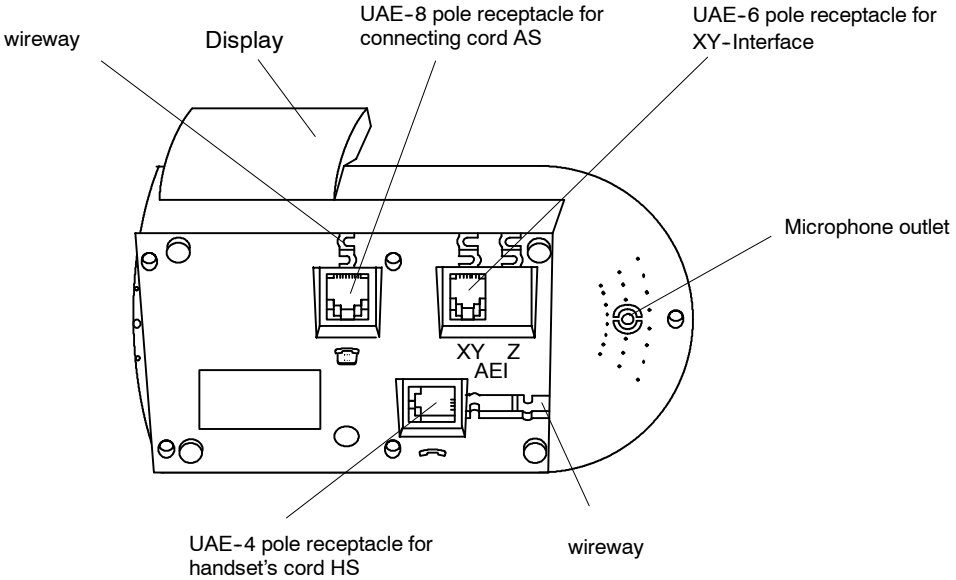


Fig. 18 Bottom view TM13

The telephone's connecting cord AS is furnished, in both ends, with UAE-8 pole plugs. One end is plugged on the bottom of the telephone (see Fig. 18), the other end to a UAE receptacle.

The handset's cord HS is is furnished, in both ends, with UAE-4 pole plugs. One end is plugged on the bottom of the telephone (see Fig. 18), and the other end to the handset.

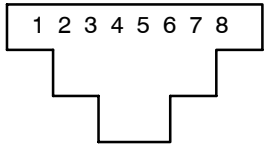
The connections are led to the bottom of the telephone by means of wireways, and they can be disconnected and exchanged any time.

A polarity safe-guarded plug is provided for telephone extras, which have their own power supply and pluggable connectors.

Following extra modules can be connected:

- ❑ DSS-modul (max. 3 modules with 36 keys per module)
- ❑ Headset
- ❑ External loudspeaker

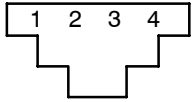
UAE-Receptacle allocation for AS



Frontal receptacle representation looking into the contacts

1 free
2 free
3 transmitting +
4 receiving +
5 receiving -
6 transmitting -
7 free
8 frei

UAE-Receptacle allocation for HS



Frontal receptacle representation looking into the contacts

1 Microphone -
2 Handset
3 Handset
4 Microphone +

Fig. 19 Sleeve allocationTM13

Connections for extra facilities

The connection of X/Y-extra facilities is done by means of a UAE-6 pole receptacle with following contact allocation (see Fig. 20).

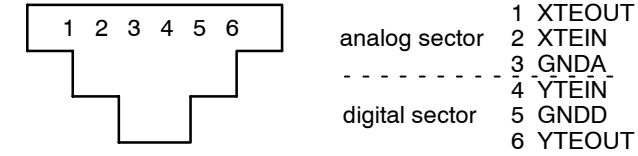


Fig. 20 Sleeve allocation for extra facilities

4.3 Bus operation for two telephones

If two system-telephones (bus operation) are connected to a S_0-Interface, the assignation between the telephone and the telephones call-number must be done manually (TEI-Telefon Endpoint Identifier-Adjustment). To do the above, proceed as follows:

- ❑ Keep pressed key 1 or 2 -as the case might be- on the respective telephone
- ❑ Unplug, momentarily, connecting cord AS and plug it in again
- ❑ Release key 1 or 2

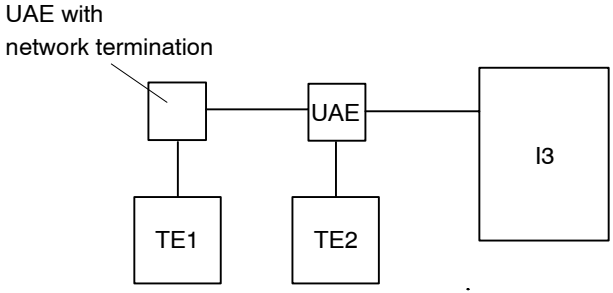


Fig. 21 Bus operation

4.4 Optical indications

Display

User's menu is spread over an .alpha-numeric LCD-display with three 24 characters' lines and one 13 symbols' lines. Display contents can be shown in 3 different languages (for instance German, English, French). Other combinations of languages can be loaded by a Software Download.

Other than the linewise representation of ASCII-codes (Text and numbers), the display also permits illustration of graphic characters.

The display contrast can be adjusted with the keyboard.

LED

The display contrast can be adjusted with the keyboard

4.5 Acoustical indications

Loudspeaker

The loudspeaker has following functions:

- ❑ Indicating the ringing tone frequency
- ❑ Indicating the alarm tone by reaching set-up time
- ❑ Monitoring a conversation
- ❑ Indicating a spoken message
- ❑ Volume of the signal tones

Adjustments on the keyboard

- ❑ Volume of ringing tone
- ❑ Volume of monitoring
- ❑ Volume of the handset
- ❑ Frequency of ringing tone with code digit 66

Built-in microphone

For transmission with the handsfree unit.

4.6 Keyboard

The keyboard makes it possible to take advantage of all the performance features. It is also possible to enter alpha-numeric characters, without an extra module.

4.7 Labels/Masks

Labels

Enclosed with respective instruction manuals are the pertinent labels, which can be labelled to meet specific customer requirements. They are then to be inserted at their individual recesses.

With aid of a PC-program, the telephone's labels can also be prepared, on-site, by service personnel

Mounting and dismounting mask 1 and masks 2, 3

Mounting:

❑ Insert one side of the mask (with the flap of mask 1) in the corresponding slot, bend the mask lightly upwards and (with the other flap) lock the mask into the slot.

Dismounting:

❑ With the fingernail in notch of mask 1, pull out until it unlocks, or in one side of mask 2 or 3, pull out until it unlocks. Take the mask off.

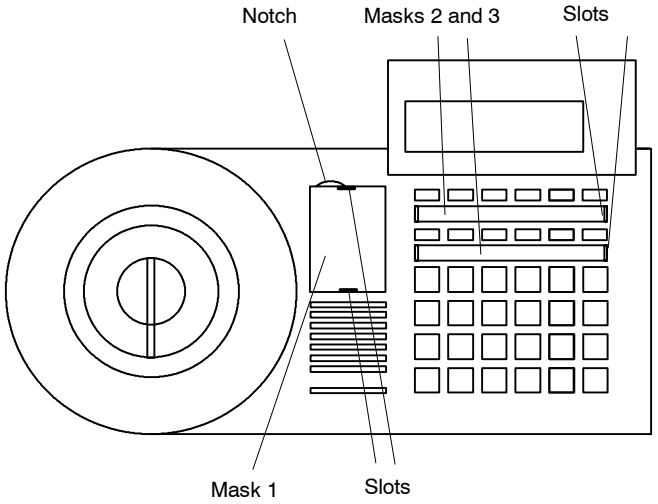


Fig. 22 Mounting and dismounting mask 1 and masks 2, 3

5 System telephone TH13

5.1 General comments

The system telephone TH13 is a digital desk telephone with display in T1 design and comfort class H (High); It is operated in TN-Stimulus Mode on a bus-capable S_0-Interface of the telecommunication system (PCB) Integral 3.

The handset of the TH13 can be rotated on its seat and, on the telephone's bottom, a grip-face has been prepared, to enable the user to pick up the unit with one hand.

It is furnished with monitoring/WAH, 12 permanently labelled function keys and 20 free programmable function keys for functions and destinations.

Power supply is provided from the I3 via the S_0-Interface.

It is possible to connect two system-telephones per bus.

The internal telephone data is stored in an EEPROM.

In case of misfunction, the complete TH13 telephone must be exchanged.

The TH13 is not suitable to be connected to the public telephone network.

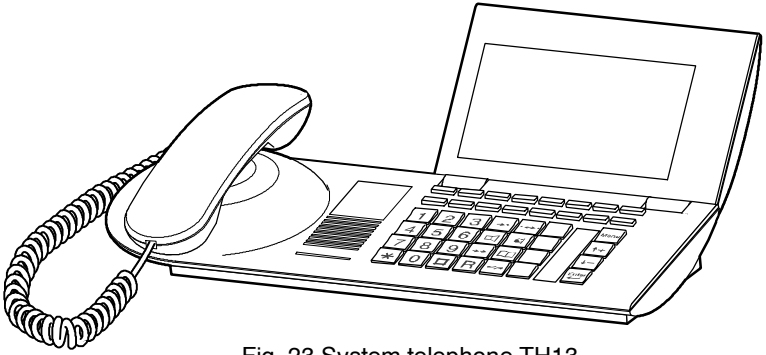


Fig. 23 System telephone TH13

5.2 Connections

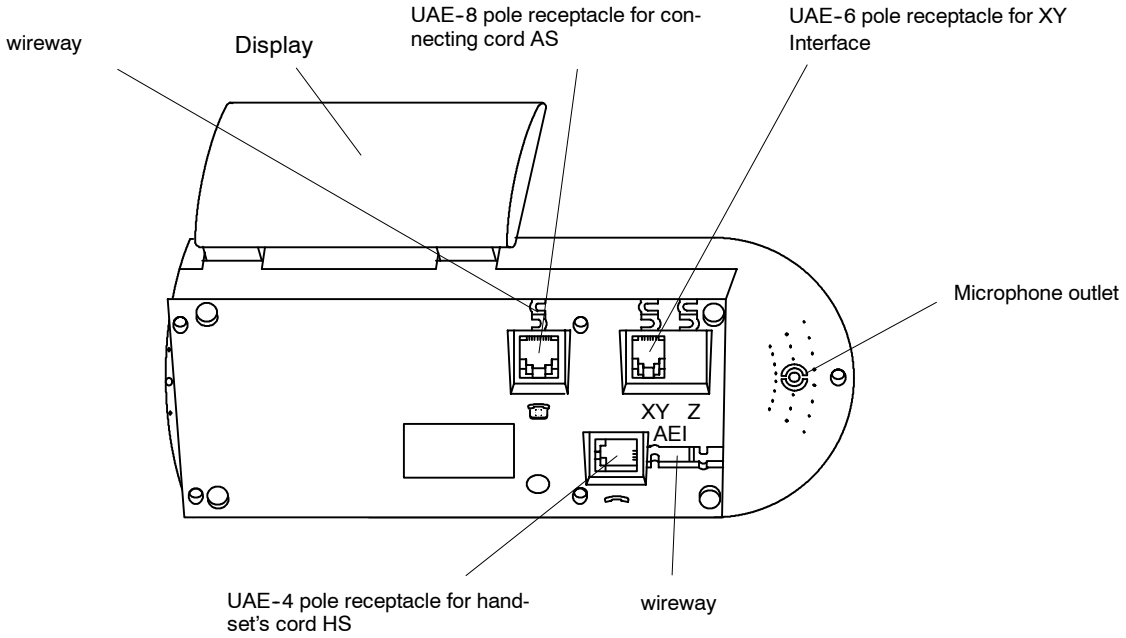


Fig. 24 Bottom view TH13

The telephone's connecting cord AS is furnished, in both ends, with UAE-8 pole plugs. One end is plugged on the bottom of the telephone (see Fig. 24), the other end to a UAE receptacle.

The telephone's connecting cord AS is furnished, in both ends, with UAE-8 pole plugs. One end is plugged on the bottom of the telephone (see Fig. 24), the other end to a UAE receptacle.

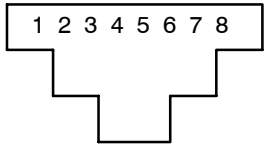
The connections are led to the bottom of the telephone by means of wireways, and they can be disconnected and exchanged any time.

A polarity safe-guarded plug is provided for telephone extras, which have their own power supply and pluggable connectors.

Following extra modules can be connected:

- ❑ DSS-modul (max. 3 modules with 36 keys per module)
- ❑ Headset
- ❑ External loudspeaker

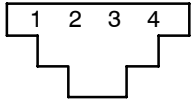
UAE-Receptacle allocation for AS



Frontal receptacle representation looking into the contacts

1 free
2 free
3 transmitting +
4 receiving +
5 receiving -
6 transmitting -
7 free
8 free

UAE-Receptacle allocation for HS



Frontal receptacle representation looking into the contacts

1 Microphone -
2 Handset
3 Handset
4 Microphone +

Fig. 25 Sleeve allocation TM13

Connections for extra facilities

The connection of X/Y-extra facilities is done by means of a UAE-6 pole receptacle with following contact allocation (see Fig. 26).

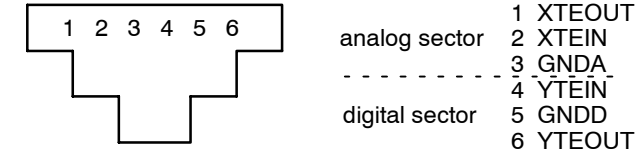


Fig. 26 Sleeve allocation for extra facilities

5.3 Bus operation for two telephones

If two system-telephones (bus operation) are connected to a S_0-Interface, the assignation between the telephone and the telephones call-number must be done manually (TEI-Telefon Endpoint Identifier-Adjustment). To do the above, proceed as follows:

- ❑ Keep pressed key 1 or 2 -as the case might be- on the respective telephone
- ❑ Unplug, momentarily, connecting cord AS and plug it in again
- ❑ Release key 1 or 2

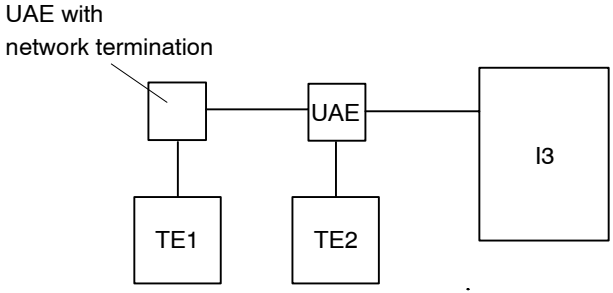


Fig. 27 Bus operation

5.4 Optical indications

Display

The display is housed in a steplessly adjustable hinged cover.

User's menu is spread over a graphic-capable LCD-display with eleven 40 characters' lines. Display contents can be shown in 3 different languages (for instance German, English, French). Other combinations of languages can be loaded by a Software Download.
Other than the linewise representation of ASCII-codes (Text and numbers), the display also permits illustration of graphic characters.
The display contrast can be adjusted with the keyboard.

LED

As optical calling indicators 2 LED's are located in the small display window next to the keyboard, on the left side, below.

5.5 Acoustical indications

Loudspeaker

The loudspeaker has following functions:

- ❑ Indicating the ringing tone frequency
- ❑ Indicating the alarm tone by reaching set-up time
- ❑ Monitoring a conversation
- ❑ Indicating a spoken message
- ❑ Volume of the signal tones

Adjustments on the keyboard

- ❑ Volume of ringing tone
- ❑ Volume of monitoring
- ❑ Volume of the handset
- ❑ Frequency of ringing tone with code digit 66

Built-in microphone

For transmission with the handsfree unit

5.6 Keyboard

The keyboard makes it possible to take advantage of all the performance features. It is also possible to enter alpha-numeric characters, without an extra module.

5.7 Labels/Masks

Labels

Enclosed with respective instruction manuals are the pertinent labels, which can be labelled to meet specific customer requirements. They are then to be inserted at their individual recesses.

With aid of a PC-program, the telephone's labels can also be prepared, on-site, by service personnel

Mounting and dismounting Mask 1 and Mask 2

Mounting:

❑ Insert the flap, on the side of the mask, in the corresponding slot, bend the mask slightly upwards and with the flap at the other end, lock the mask into the slot.

Dismounting:

❑ Pull out, with the fingernail in the notch of mask 1, or in one side of mask 2, till the flap unlocks. Take the mask off.

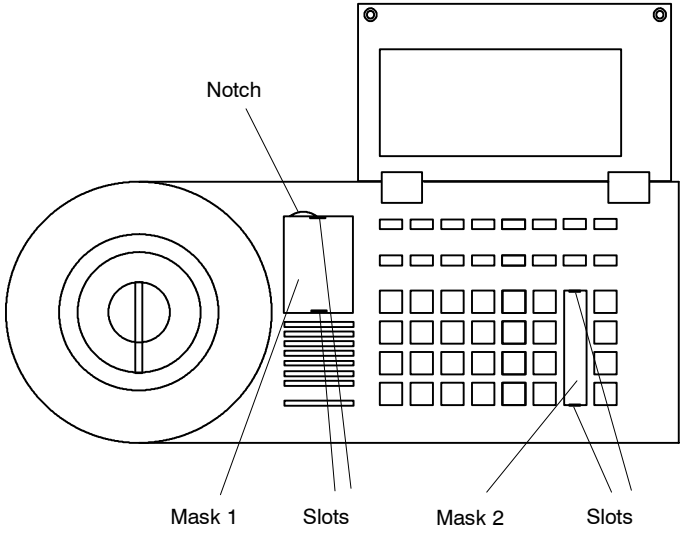


Fig. 28 Mounting and dismounting Mask 1 and Mask 2

6 System telephone PS13

6.1 General comments

The PS 13 MasterPhone consists of a telephone, a connecting cable with an adapter and the”MasterPhone” PC software. The PS13 is a TS telephone (however, without a display), which forwards all display commands to a PC on which the TH user interface is simulated. Without a PC the PS13 system telephone fulfils the basic functions.

Fig. 29 System telephone PS13

6.2 PC-Anforderungen

The user interface of the MasterPhone program follows the operating philosophy of MS Windows. To make optimum use of the program, your PC must meet the following requirements:

- ❑ Processor: at least 80386 DX
- ❑ AMain memory: at least 4 MB RAM
- ❑ Hard disk: at least 5 MB of free disk space
- ❑ Operating system: : MS-DOS version 3.3 or higher
- ❑ MS Windows: version 3.1 or higher in extended mode
- ❑ Serial interface (COM1-COM4)
- ❑ Video: at least VGA 640*680

In case you use Windows for Workgroups 3.11 the driver for the serial interface must be updated.

The driver is delivered on the installation diskette.
In the WG1001 directory you will find two ”readme” files which describe all steps of the installation in detail (WG1001.DOC is a formatted file and can be read by means of a text processing program, e.g. WORD. WG1001.TXT is an unformatted file).
The DISK subdirectory contains the updated driver SERIAL.368.Please read the instructions for installation in one of the ”readme” files first and then proceed in the described manner.

6.3 Cabling

The PS13 Master Phone consists of the following components:

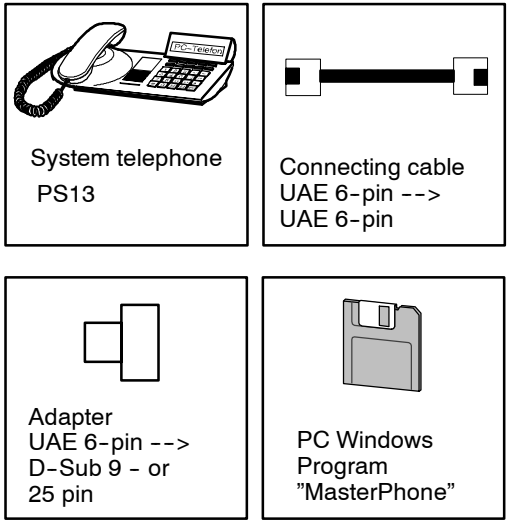


Fig. 30 Components of the PS13

The telephone is connected to your PC by means of the enclosed connecting cable and an adapter. In order to connect it, plug one end of the cable into the 6-pin socket V.24 of your telephone (see figure). The adapter is plugged onto the other end of the cable and is connected to a free COM interface of the PC.

The AEI interface of the telephone, which is equipped with the functionality of the analog X interface, is available for the connection of supplementary equipment requiring an analog X interface (e.g. headset).

For any further information please refer to the operating instructions of your PS13 telephone.

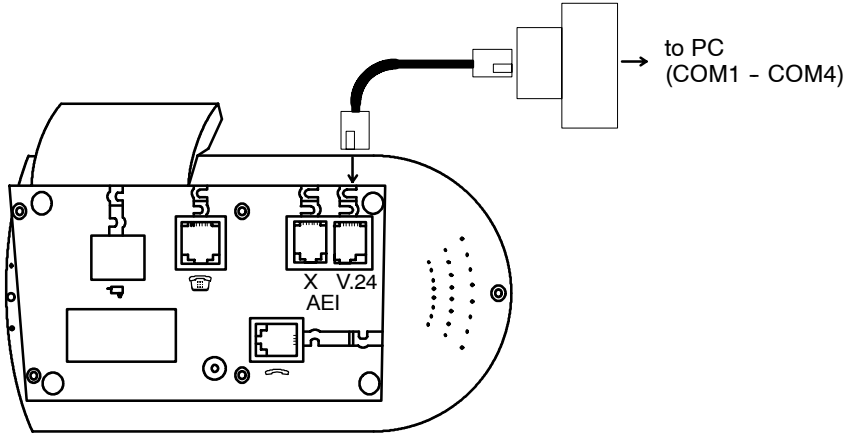


Fig. 31 Bottom view PS13

7 Portable Handset MS 687

7.1 General comments

MS 687 portable handsets act similar to system telephones connect to the I3C/DECT, in that each PHS is assigned an individual call number.

The PHS requires a charger. The charger is powered by a plug-in mains unit.

The following performance features are available for a PHS portable within a I3/DECT:

- ❑ Telephone directory
- ❑ Call list (internal/external)
- ❑ Call number indication
- ❑ Call diversion from / to
- ❑ Switch
- ❑ Splitting
- ❑ DTMF postdialing
- ❑ Call pick-up from subscribers
- ❑ Seize connected lines
- ❑ Ciphering (encryption of call data on the radio link)

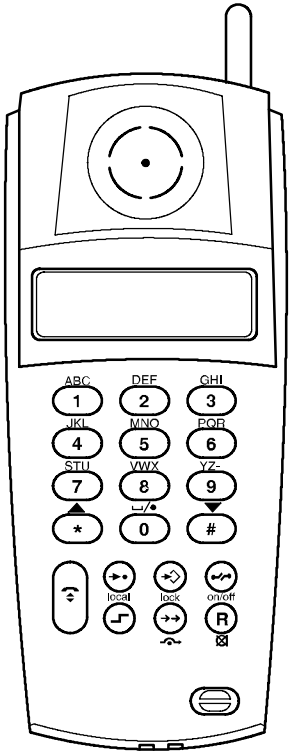


Fig. 32 Portable Handset (PHS MS 687)

Performance features as of SW E2 package

- ❑ Door opener functions
- ❑ Call charge data
- ❑ Automatic callback
- ❑ Suppression of personal call number
- ❑ Talk-through to corresponding subscriber
- ❑ Call diversion from corresponding subscriber
- ❑ Call diversion to corresponding subscriber
- ❑ Call pick-up from corresponding subscriber
- ❑ Delete self-assignment for the corresponding subscriber
- ❑ Cancel self-assignment, call diversion and do-not-disturb
- ❑ Group call 1 - 8
- ❑ Explicit call transfer external T_0 - T_0
- ❑ Internal call group 1 - 8
- ❑ Call pick-up group 1 - 8

The PHS MS 687 has the following performance features:

- ❑ Optical alarm in the display for out-of-range
- ❑ Display of battery charging status
- ❑ Acknowledgment tone programmable by key pressing (keyclick)
- ❑ 9 variants for adjusting three-tone ringing
- ❑ Microphone mute key
- ❑ Special features similar to a system telephone within the I3C/DECT
- ❑ Volume control programmable for the ringing tone

7.1.1 The DECT - RBS interface

Communication between PHS and RBS is by means of a radio link. Exchange and acknowledgment of identification, set-up and clearing the connection, are established by the software.

120 duplex channels in total are available in the 1.9 GHz bandwidth for the entire system. These can be used following a location check within the scope of valid specifications.

System identification (ID) is exchanged in order to set up the connection as well as during an established connection, since it must be assured that both components belong to this system for communication between the RBS and a PHS via a radio link.

In order to do this, it is necessary to enroll all PHS units into the I3/DECT system.

Refer to the following manuals:

- ❑ “Installation Integral 3E” chapter Commissioning
- ❑ “Installation Integral 3C” chapter Commissioning
- ❑ “Installation Integral 3 *duo*” chapter Commissioning
- ❑ “Data Input”, code digits #0, #1, 17, 29, 30

7.1.2 Data saving

The parameters that are exchanged during system log-in, as well as all local settings for the PHS are stored in the PHS and these data are retained even if the battery is removed.

7.1.3 Technical Data:

❑ Power supply	3.6 V battery pack
❑ Frequency range	1.9 Ghz/120 channels (DECT standard)
❑ Transmission power • Max. 250mW • Average 10mW	
❑ Readiness for operation without charging	max. 70h
❑ Continuous talk	max. 10h
❑ Charging time for empty battery pack	approx. 2,5h
❑ Dimensions (l x w x h)	157x 62x 30mm
❑ Weight	approx. 220g
❑ Protection class	IP20
❑ Ambient temperature	0...+40°C
❑ Relative humidity	5...95%

7.2 Charger for the PHS MS687

A charger (designed as a table model) is provided for charging up the battery pack for the portable handset.

This is powered by a plug-in mains unit. The charger is plugged into the plug-in mains unit.

A LED charging-control display indicates the charging status of the PHS when this is put on charge at the station.

- ❑ LED illuminated — Battery is being charged
- ❑ LED blinks — Battery kept charged (PHS is fully charged)

The battery condition is monitored by the charging electronics.

7.2.1 Technical Data:

❑ Dimensions	101x82x38mm
❑ Weight	80g
❑ Operating temperature	+10...+40°C
❑ Protection class	IP30
❑ Relative humidity	5...85%

Plug-in mains unit:

❑ Mains voltage	230V ~
❑ Output voltage	12V=
❑ Mains frequency	50Hz
❑ Output current	260mA

8 Portable Handset Bosch MM588

8.1 General comments

The Bosch MM588 portable handset replaces DeTeWe's MS 687 as from SW E5-Paket and higher on I3 systems.

The MM 588 acts similar to system telephones connected to the I3C/DECT in that each PHS is assigned an individual call number.

The PHS requires a charging station. The charging station is powered by a plug-in mains unit.

The following performance features are available for a PHS portable within a I3/DECT:

- ❑ Telephone directory
- ❑ Call list (internal/external)
- ❑ Call number indication
- ❑ Call diversion from / to
- ❑ Switch
- ❑ Splitting
- ❑ DTMF postdialing
- ❑ Call pick-up from subscribers
- ❑ Seize connected lines
- ❑ Ciphering (encryption of call data on the radio link)

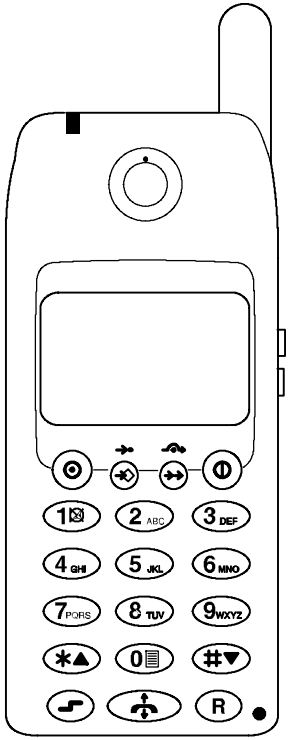


Fig. 33 Portable Handset Bosch MM588

Performance features as of SW E2 package

- ❑ Door opener functions
- ❑ Call charge data
- ❑ Automatic callback
- ❑ Suppression of personal call number
- ❑ Talk-through to corresponding subscriber
- ❑ Call diversion from corresponding subscriber
- ❑ Call diversion to corresponding subscriber
- ❑ Call pick-up from corresponding subscriber
- ❑ Delete self-assignment for the corresponding subscriber
- ❑ Cancel self-assignment, call diversion and do-not-disturb
- ❑ Group call 1 - 8
- ❑ Explicit call transfer external T_0 - T_0
- ❑ Internal call group 1 - 8
- ❑ Call pick-up group 1 - 8

The PHS MM588 has the following performance features:

- ❑ Optical alarm in the display for out-of-range
- ❑ Display of battery charging status
- ❑ Acknowledgment tone programmable by key pressing (keyclick)
- ❑ 9 variants for adjusting three-tone ringing
- ❑ Microphone mute key
- ❑ Special features similar to a system telephone within the I3C/DECT
- ❑ Volume control programmable for the ringing tone

8.1.1 The DECT - RBS interface

Communication between PHS and RBS is by means of a radio link. Exchange and acknowledgment of identification, set-up and clearing the connection, are established by the software.

120 duplex channels in total are available in the 1.9 GHz bandwidth for the entire system. These can be used following a location check within the scope of valid specifications.

System identification (ID) is exchanged in order to set up the connection as well as during an established connection, since it must be assured that both components belong to this system for communication between the RBS and a PHS via a radio link.

In order to do this, it is necessary to enroll all PHS units into the I3/DECT system.

Refer to the following manuals:

- ❑ “Installation Integral 3E” chapter Commissioning
- ❑ “Installation Integral 3C” chapter Commissioning
- ❑ “Installation Integral 3 *duo*” chapter Commissioning
- ❑ “Data Input”, code digits #0, #1, 17, 29, 30

8.1.2 Data saving

The parameters that are exchanged during system log-in, as well as all local settings for the PHS are stored in the PHS and these data are retained even if the battery is removed.

8.1.3 Technical Data:

❑ Power supply	Akkupack 600 mAh
❑ Frequency range	1.88...1,9Ghz (DECT standard)
❑ Transmission power	max.: 250 mW average: 10 mW
❑ Operating time (with full battery)	Conversation: max. 10h Stand by: max. 70h
❑ Charging time for empty battery pack	max. 8h
❑ Dimensions (l x w x h)	122x 54x 28mm
❑ Weight	approx. 130g (standard battery pack)
❑ Protection class	IP40
❑ Ambient temperature	-10°C...+45°C
❑ Relative humidity	5...95%
❑ Dialing method	PDM/DTMF
❑ Range	in the open field: max. 300m in buildings: max. 50m

8.2 Charger for the PHS MM588

A charger (designed as a table model) is provided for charging up the battery pack for the portable handset.

This is powered by a plug-in mains unit. The charger is plugged into the plug-in mains unit.

A LED charging-control display indicates the charging status of the PHS when this is put on charge at the station.

- ❑ LED illuminated — Battery is being charged
- ❑ LED blinks — Battery kept charged (PHS is fully charged)

The battery condition is monitored by the charging electronics.

8.2.1 Technical Data:

❑ Dimensions	90x115x78mm
❑ Weight	80g
❑ Operating temperature	+10...+40°C
❑ Protection class	IP30
❑ Relative humidity	5...85%

Plug-in mains unit:

❑ Mains voltage	230V ~
❑ Output voltage	12V=
❑ Mains frequency	50Hz
❑ Output current	250mA

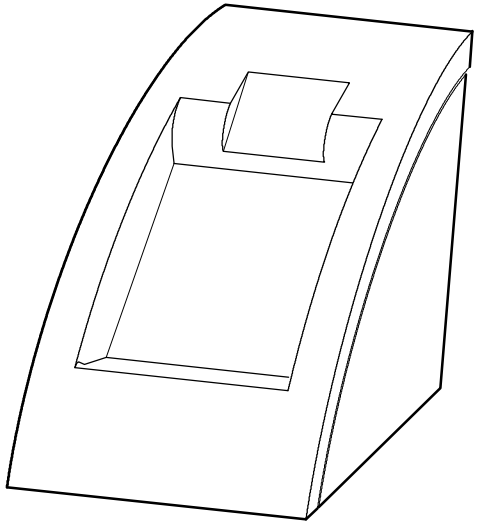


Fig. 34 charger for PHS MM588

9 Abbreviations

A

AEI	Advanced Equipment Interface
AS	Terminal connecting cord
ASCII	American Standard Code for Information Interchange

D

DSS	Direct Station Select
DECT	Digital Enhanced Cordless Telecommunication

E

EEPROM	Electrical Erasable Programable Read Only Memory

G

GDV	Call data processing
GSD	DC direct inward dialing

H

HS	Handset cord

I

ID	Identification

L

LCD	Liquid Crystal Display
LED	Light-emitting diode

P

PC	Personal Computer
PHS	Portable Handset

R

RAM	Random Access Memory
RBS	Radio Base Station

S

S_0	Interface 2x64 kbit/s +16 kbit/s

T

TEI	Terminal Endpoint Identifier

U

UAE	Universal connecting unit

W

WAH	On-hook dialing